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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,058	08/31/2000	James A. Baldwin	14531.65	2972

47973 7590 03/10/2005

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EXAMINER

NATNAEL, PAULOS M

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/652,058

Applicant(s)

BALDWIN ET AL.

Examiner

Paulos M. Natnael

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Upon further search and consideration, the previously indicated allowability of claims 3,7,12,17 has been withdrawn for the reason given below in the rejections.

Examiner regrets the inconvenience this may create for the Applicant. However, this is necessary for a thorough and fair examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims **1-24** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

While the specification describes that the PCR is evaluated and compared to the local time stamp by the comparator 330 of fig.3, as discloses in page 14 for example, the newly added limitations in the claims recite “wherein at least one of the video clock or the audio clock compare a program clock reference within at least one of the digital video packets or digital audio packets, respectively, with a local time at the digital receiver and speed up or slow down the at least one clock in response to said comparison”, [emphasis added by examiner] which seems to say that the video and audio clocks perform the comparison operation instead of the comparator, rendering the claims indefinite.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **1-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Katto (U.S. 6,072,832) in view of Har-Chen et al. (U.S. 6,429,902).

Considering claim **1**, Katto discloses all claimed subject matter, note;

a) an act of receiving a digital video signal and a digital audio signal, is met by Demultiplexer 101, fig.1;

b) an act of extracting a plurality of digital video packets from the digital video signal, is met by Demultiplexer 101, fig.1;

c) an act of extracting a plurality of digital audio packets from the digital audio signal, is met by Demultiplexer 101, fig.1;

d) an act of using a video clock to control the timing of the presentation of the video information represented by the plurality of digital video packets, is met by video PLL 108, fig.1;

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e) an act of using an audio clock to control the timing of the presentation of the audio information represented by the plurality of digital audio packets, wherein the audio clock operates separately and independently of the video clock, is met by audio PLL 103, fig.1;

Except for;

f) the claimed wherein at least one of the video clock or the audio clock compare a program clock reference within at least one of the digital video packets or digital audio packets, respectively, with a local time at the digital receiver and speed up or slow down the at least one clock in response to said comparison;

Regarding f), Katto discloses receiving the PCR from the demultiplexer 101 by the PLLs and the PLLs each generating a decoding clock. It is well known in the art that a phase locked loop may comprise a voltage controlled oscillator (VCO). It is also notoriously well known in the art that in conventional decoders the difference between the PCR clock and the local clock would be used to drive the VCO to speed up or slow down the local clock. In that regard, Har-Chen disclose such an arrangement (Fig.4 as well as Fig.6) where the PCR is compared (96) with the local time generated from the 27 MHz clock (94) which in turn is controlled by the VCO 100. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to provide the method of driving the VCO to control the local clock, slowing or speeding it up as necessary. Doing so would allow the system to synchronize the presentation of the audio and video data to a display device, etc.

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Considering claim 2, the claimed,

(a) an act of adding a local video time stamp or local audio time stamp to a digital video packet or digital audio packet at a substantially constant time period, packet to packet, after the receiver receives the digital video packet or digital audio packet;

b) wherein at least one of the video clock or the audio clock compare a program clock reference within at least one of the digital video packets or digital audio packets, respectively, with a local time at the digital receiver and speed up or slow down the at least one clock in response to said comparison;

Regarding a), Katto discloses that the "demultiplexer 101 separates a bit stream in which an audio signal, a video signal, and computer graphics data are compressed and multiplexed, into a compressed audio signal stream, a time stamp, the SCR (System Clock Reference) or PCR (Program Clock Reference) of the audio signal, a compressed video signal stream, a time stamp, the SCR or PCR of the video signal, and a compressed computer graphics data stream." (col. 6, lines 42-50) However, adding a local time stamp to the received signal is well known in the art, which is referred as **Decoding Time stamp (DTS)**. Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Katto by providing a DTS locally in order for the system to be able to better synchronize the received data (audio and video signal) more efficiently and quickly, so the presentation of the signals would be accurate.

Regarding b) see rejection of claim 1(f).

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Regarding claims **3, 5, 7-10**, see rejection claim 1(f).

Regarding claims 4 and 6, see claim 2(a) and 1(f) , respectively.

Considering claim **11**, see rejection of claim 1, except for the newly added claim language “wherein the audio clock operates separately and independently”, which is met by Katto’s audio PLL 103 and Video PLL 108.

Regarding claim **12**, see rejection of claim 8;

Regarding claim **13**, see rejection of claim 8;

Regarding claim **14** see rejection of claim 8;

Considering claim **15**. In a digital receiver that is configured to receive a digital video signal representing a plurality of digital video packets and a digital audio signal representing a plurality of digital audio packets, a method of independently timing the presentation of the video information of the digital video packets with respect to the timing of the presentation of the audio information of the digital audio packets so that the video information and the audio information may be accurately timed even if they are from different unrelated programs, the method comprising the following:

- a) an act of receiving a digital video signal and a digital audio signal;
- b) an act of extracting a plurality of digital video packets from the digital video

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to signal;

c) an act of extracting a plurality of digital audio packets from the digital audio signal; and

d) a step for independently controlling a video clock that controls the timing of the video presentation speed of the plurality of digital video packets, and an audio clock that controls the timing of the audio presentation speed of the plurality of digital audio;

See rejection of claim 1;

Considering claim **16**,

a) an act of using a video clock to control the timing of the presentation of the video information represented by the plurality of digital video packets; and

b) an act of using an audio clock to control the timing of the presentation of the audio information represented by the plurality of digital audio packets, wherein the audio clock operates separately and independently of the video clock.

See rejection of claim 11;

Regarding claims **17** and **18**, see rejection of claim 2 and 1(f).

Regarding claim **19**, which essentially is a duplicate of claim 17, see rejection of claim 17.

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Regarding claim **20**, Katto discloses audio and video PLLs 103 and 108, which receive SCR/PCR signals and audio and video packets demultiplexed by demultiplexer 101.

Regarding claims **21-24**, see rejection of claim 20.;

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Murayama et al. (U.S. 6,516,005) disclose audio/video synchronization using timing controller to compare timing signals in order to adjust buffering time of the memories 15.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PMN
March 6, 2005



PAUL M. NATNAEL
PATENT EXAMINER